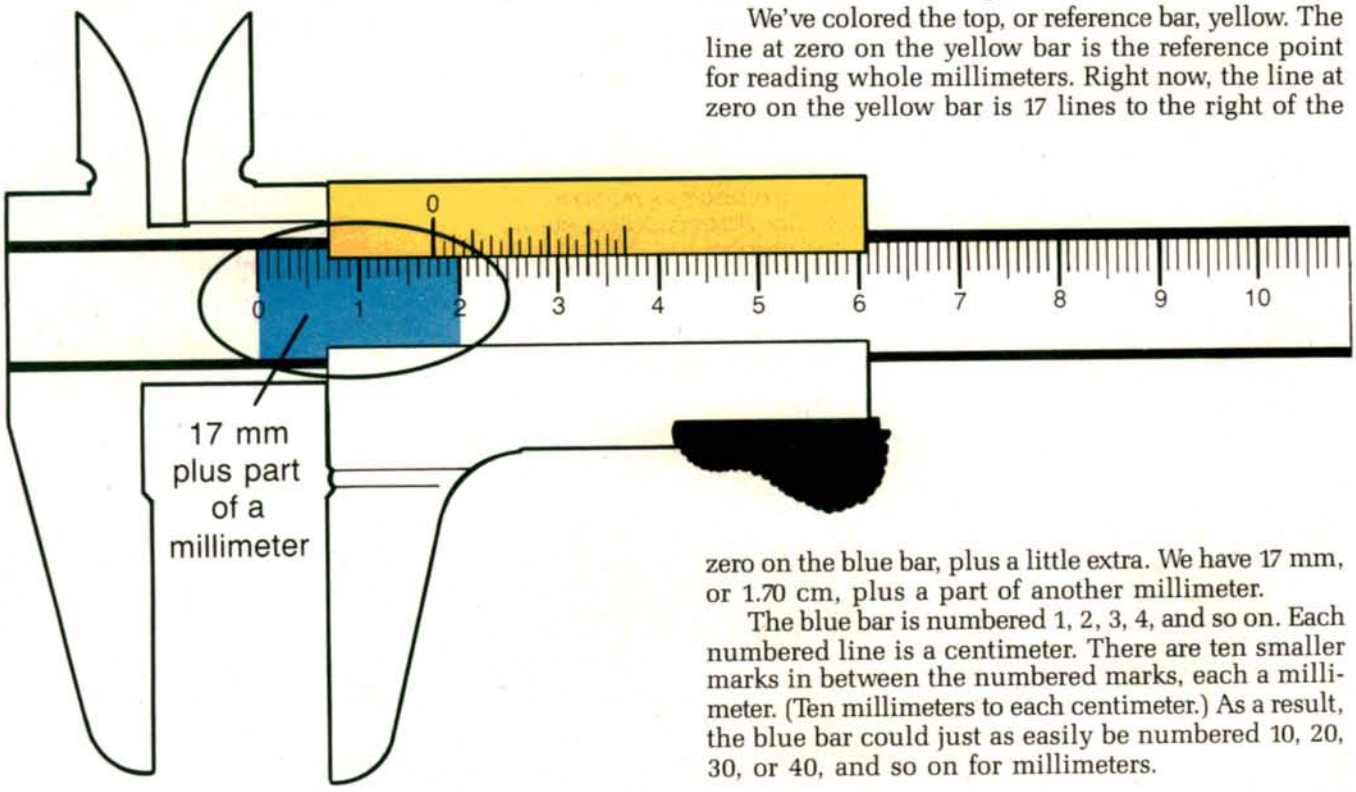
Vernier Calipers

We talked about the use of micrometers in our April issue. But there's another handy measuring tool available to you that is accurate, versatile, and easy to use—the vernier caliper.

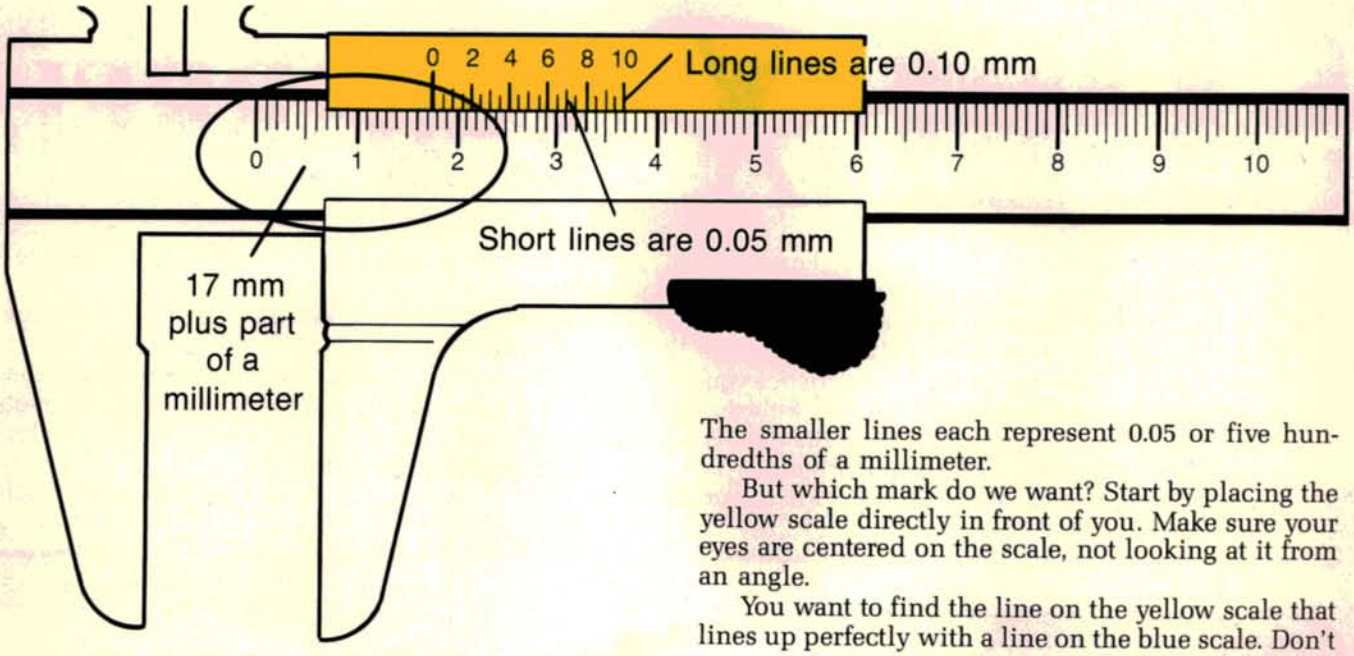
The vernier can be used to measure both outside and inside diameters, and a small slide bar that comes out the back allows you to use it as a depth gauge. They come in dial and digital styles for easy reading. The old vernier scale style is not that hard to read, however, and costs the least.

The vernier we chose comes from KD Tools and is exceptionally useful since it reads on two scales; one calibrated in millimeters and one in inches. We're dealing with import cars, however, so we'll stick with the metric side of things.

We've colored the top, or reference bar, yellow. The line at zero on the yellow bar is the reference point for reading whole millimeters. Right now, the line at zero on the yellow bar is 17 lines to the right of the zero on the blue bar, plus a little extra. We have 17 mm, or 1.70 cm, plus a part of another millimeter.



The blue bar is numbered 1, 2, 3, 4, and so on. Each numbered line is a centimeter. There are ten smaller marks in between the numbered marks, each a millimeter. (Ten millimeters to each centimeter.) As a result, the blue bar could just as easily be numbered 10, 20, 30, or 40, and so on for millimeters.



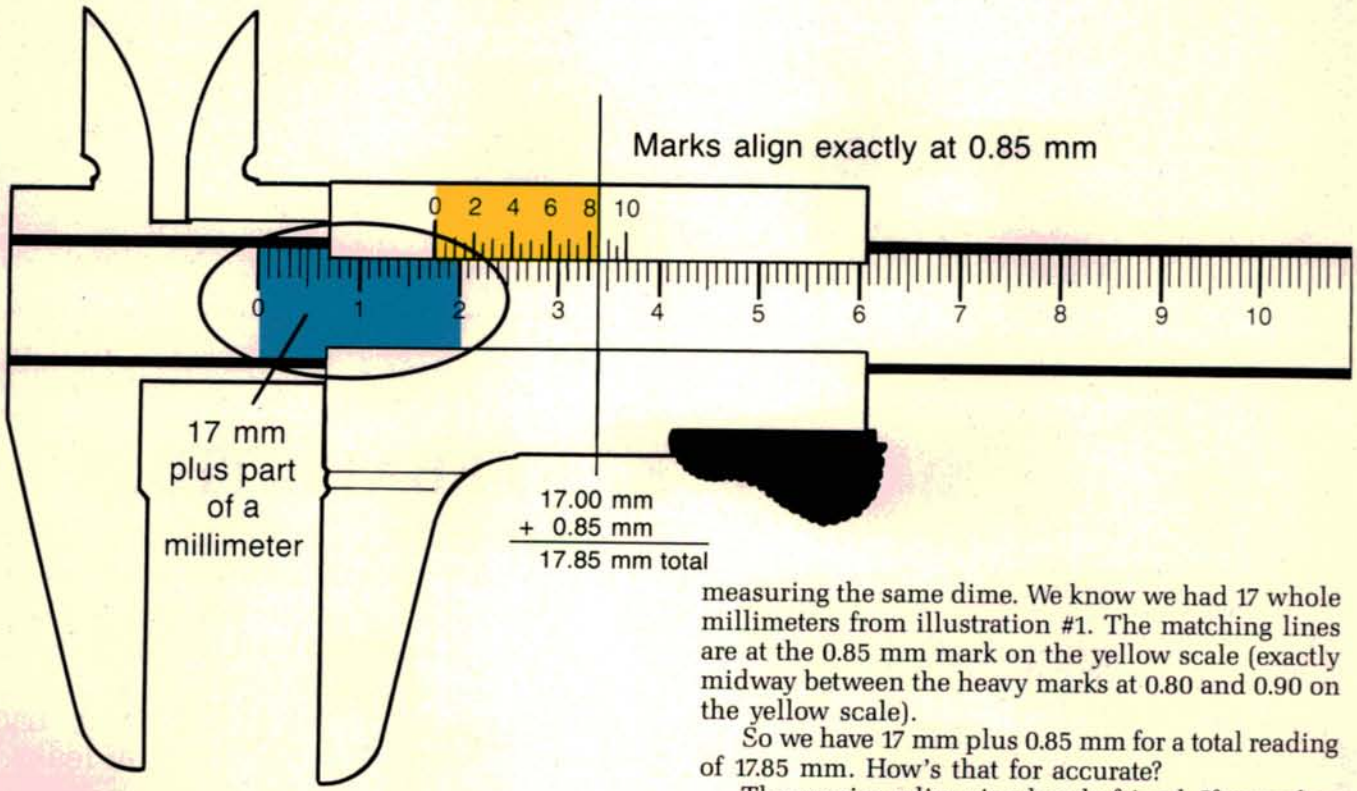
We said we had 17 mm plus a part of another whole millimeter. Just how much more than 17 mm do we have? Let's add some numbers to the yellow scale. The numbers on the yellow scale at the long black marks each represent one tenth of a millimeter, or 0.10 mm.

The smaller lines each represent 0.05 or five hundredths of a millimeter.

But which mark do we want? Start by placing the yellow scale directly in front of you. Make sure your eyes are centered on the scale, not looking at it from an angle.

You want to find the line on the yellow scale that lines up perfectly with a line on the blue scale. Don't worry, only one line will match perfectly, a feat of logic on someone's part that amazes me to this day.

Don't be fooled by lines that are just close to lining up. We want the lines that match up exactly. That's why you can't look at the scales with your head off center. You'll get fooled. You'll get the wrong reading.



So which one is it? I'll give you a second. The official reading is the same one we got using the micrometer in our April issue. Why not? We were measuring the same dime. We know we had 17 whole millimeters from illustration #1. The matching lines are at the 0.85 mm mark on the yellow scale (exactly midway between the heavy marks at 0.80 and 0.90 on the yellow scale).

So we have 17 mm plus 0.85 mm for a total reading of 17.85 mm. How's that for accurate?

The vernier caliper is a handy friend. If yours has been rusting away in some forgotten corner of your tool box, maybe it's time to drag it out, clean it off, and spend a little time practicing with it.